

SARDAR PATEL UNIVERSITY
Programme: BCA
Semester: V
Syllabus with effect from: June-2013

Paper Code: US05CBCA02	Total Credit: 4
Title Of Paper: Computer Graphics	

Unit	Description in detail	Weighting (%)
I	Introduction of Computer Graphics A survey of major applications of Computer Graphics Overview of different video display Devices: CRT, Raster scan, Color Monitors, DVST, Flat Panels Input Devices: Keyboard, mouse, Trackball, Spaceball, Joystick, Data Glove, Digitizers, Image Scanner, Touch Panel, Light pen & Voice system, Hardcopy Devices: Printers and Plotters Graphics Software & coordinate representation, Graphics functions, Software Standards	25%
II	Output Primitives and their attributes Output Primitives: Points, Lines, Circles Line Drawing Algorithms (without program): Digital Differential Analyzer (DDA) and Bresenham. Circle generating algorithm(without program): Midpoint Circle Algorithm Filled area primitives Inside – Outside tests: Odd even rule & Non-zero winding number rule Boundary- fill algorithm (with procedure) Flood-Fill Algorithm (with procedure), Character generation, Attributes of output primitives	25%
III	Two – dimensional Geometric Transformations, Viewing & Clipping 2-D geometric Transformations : Translation, Rotation, Scaling, Reflection & Shear (with example) Viewing Pipeline, Window-to-Viewport transformation Point Clipping Line clipping (without program) Cohen Sutherland line clipping algorithm Polygon Clipping(without program) Text clipping	25%
IV	Usage of a 2D Animation Package Timeline Window, Layers, Key Frame, Frames and Toolbox Types of Symbols Types of Animation – Frame By Frame and Tween (Motion and Shape) Onion Skinning Import and Export images Publish settings, Guided Layer, Alpha Effect, Using Color properties (Brightness , Tint), Masking (Using Filled shape, Text), Motion guide and Movie Clip Mask Introduction to Action scripting Play & Stop, GetURL	25%



Basic Text & Reference Books :-

- Computer Graphics by Donald Hearn & M. Pauline Baker, PHI, 1995
- Macromedia Flash MX 2004 in 24 hours by Robert Renihardt and Snow Dowd
- FLASH MX – Manual

